UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *5/9/2008*.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-20* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-20* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
       1. ☐ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendments/Remarks

1.   Applicant's arguments and all other documents filed on 5/09/2008 have been

fully considered but they are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made.

Claim Objections

2.   Claim 1 is objected to because of the following informalities: claim 1 recites "the

user **can** decide ..." at line 16. It is improper to use "can" in the claim language.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious
> at the time the invention was made to a person having ordinary skill in the art to which said
> subject matter pertains. Patentability shall not be negatived by the manner in which the invention
> was made.

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

> 1. Determining the scope and contents of the prior art.
> 2. Ascertaining the differences between the prior art and the claims at issue.
> 3. Resolving the level of ordinary skill in the pertinent art.
> 4. Considering objective evidence present in the application indicating obviousness or
> nonobviousness.

4.   **Claims 1-2, 8-12** and **18** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Barnes, JR (US 20030065805 A1, hereinafter **Barnes**) in view of Ahn

et al. (US 20020061745 A1, hereinafter **Ahn**).

For **claim 1** and **11**, Barnes discloses a system (101 of Fig. 1) and a method for

informing that the user is in or not in wireless LAN (WLAN, [0044], line 14) service area

comprising at least:

a preset data storing means (memory 160 of Fig.1; or "stored in memory", first

line of [0110]) for storing identification data (authentic. module 125 of Fig. 1; or "the

authentication data", [0110], line 1) of a hot spot dealer (the service provider of a

particular service area, such as 235 of Fig. 2);

a wireless communication means (Comm. Module 105 of Fig.1; or anyone of

wireless LAN, WLAN, wireless MAN, and wireless PAN in [0044], line 12-15);

a display means (Display 175 of Fig. 1; or high resolution color display or

dynamic touch screen, [0037], line 4-12) and

a means functioning (101 of Fig. 1):

when providing a display as to whether the user is in the service area of a hot

spot service (the service area of a service provider, the hot spot dealer, such as area

235 in FIG. 2), to obtain the electric field intensity (strength of the communication signal,

[0032], line 17-19) of a channel as a subject of survey and identification data of a dealer

(the user identification data stored in a dealer, which is inherent in that they must

present otherwise the authentication would not be possible) and check (validation,

[0110], line 8) whether the obtained identification data (receipt of the authentication

data, [0110], line 8) is identical with identification data (the data storied in memory,

[0110], line 4-5) of the user's own subscribed hot spot dealer (the authentication data of

the user, [0110], line 5-7), which is stored in the preset data storing means (memory

160 or Authentic. Module 125 of Fig. 1);

when the obtained identification data is identical with the identification data of the

user's own subscribed hot spot dealer (validation, [0110], line 8 or authentication

process described [0110]-[0115]), to output data for display on the display means such

that the user can decide that the obtained electric field intensity is that of the user's own

subscribed hot spot dealer (strength of the communication signal, [0032], line 17-19);

and

when the obtained identification data (receipt of the authentication data, [0110],

line 8) is identical with the identification data of the service provider (validation, [0110],

line 8), to output data for display on the display means such that the user can decide

that the obtained electric field intensity (strength of the communication signal, [0032],

line 17-19) is that of the service provider (the signal to the display for presentation to the

user, [0045], line 10-11, which shows the signal strength of the service area).

Barnes does not explicitly disclose the service provider is the roaming contract

relation dealer;

Ahn discloses a roaming service system ("a GSM service subscriber roams to

the CDMA service", [0010]) as the contract service provider (CDMA system provides

contract service for GMS system user [0010]) so that the user of one service provider

(GSM system, [0010]) may get service in the area of another service provider (CDMS

system, [0010]).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to use the roaming contract relation dealer as disclosed in Ahn

to provide the service as disclosed in Barnes for the benefit of providing the secured

service for the user in a wide area.

As to **claim 2** and **12**, Barnes in view of Ahn discloses the system according to

claim 1 and 11, wherein the display means includes:

a light-emitting means (LED(s), or a high resolution color display, [0037], line 5-

11; the color display may be LCD that is commonly used as laptop monitor or mobile

devices such as cellular phones); and in the case when the user is in the service area of

the user's own subscribed hot spot dealer and the case when the user is in the service

area of the dealer in roaming contract relation to the own hot spot dealer.

a control means (circuit for controlling LEDs or the high resolution color display,

[0037], line 5-11) for causing the light-emitting means to emit informing light in different

colors (color display, line 9 of [0037] or using different colors of LEDs) in the case when

the user is in the service area of the user's own subscribed hot spot dealer and the case

when the user is in the service area of the dealer in roaming contract relation to the own

hot spot dealer (in the service area of the service provider).

As to **claim 8** and **18**, Barnes in view of Ahn discloses the system according to

claim 1 and 11, which further comprises an agent authentication means (authentication

module 125 of Fig. 1) set by the user's own subscribed hot spot dealer and a hot spot

dealer in roaming contract relation to the own hot spot dealer (the roaming contract

service area is considered as the extended service area, to which everything applies in

the same way); and in which:

the obtained identification data (receipt of the authentication data, [0110], line 8)

is identical with identification data (the data storied in memory, [0110], line 4-5) of the

user's own subscribed hot spot dealer (the authentication data of the user, [0110], line

5-7), which is stored in the preset data storing means (memory 160 or Authentic.

Module 125 of Fig. 1);

at the user side terminal data concerning the authentication means of the user's

own subscribed hot spot dealer and a hot spot dealer in roaming contract relation to the

own hot spot dealer and data necessary for these authentications (receipt of the

authentication data, [0110], line 8 or the authentication data of the user, [0110], line 5-7)

are preliminarily stored in the memory means (stored in memory, [0110]);

the agent authentication means carries out authentication by using the data

preset by the user (validation, [0110], line 8); and

when the agent authentication means has carried out authentication successfully,

data indicative of that the pertinent service area is that of the successfully authenticated

hot spot dealer (strength of the communication signal, [0032], line 17-19; seeing the

signal indicates the successfully authentication) is outputted to the display means for

display (displayed on the display device, [0112], line 1-2).

As to **claim 9**, Barnes in view of Ahn discloses the system according to claim 1,

which further comprises a means for deciding, when a check is made as to whether the

obtained identification data is identical with the identification data of the user's own

subscribed hot spot dealer as stored in the preset data storing means, that the obtained

identification data and the identification data stored in the preset data storing means are

identical when the two data are not perfectly identical but partly identical ("sufficient to

identify the user", [0113], last 3 lines from the bottom).

5.   As to **claim 10**, Barnes in view of Ahn discloses the system according to claim 1,

further comprising authentication means for performing an authentication of the user's

own subscribed hot spot dealer (authentication module 125 of Fig. 1) or the roaming

contract relation dealer, the authentication being performed using data preset by the

user (the data storied in memory, [0110], line 4-5), whereby the authentication means

outputs an indication on the display of the display means as to whether or not the

authentication was successful (validation, [0110], line 8).

6.   **Claims 3** and **13** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Barnes in view of Connor (US 2003/0156542 A1, hereinafter **Connor**).

        For **claims 3** and **13**, Barnes discloses a system (Fig. 1) for informing that the

user is in or not in a wireless LAN service area strength of the communication signal,

(occurrence of ... within a predetermined distance, [0032], line 3-5, or WLAN, [0044]),

obtaining congestion degree in service area and outputting the obtained congestion

degree (congestion, [0327]) to display means and display the status of the system to the

display means.

        Barnes is **silent on** the displaying information is network congestion occurring at

data link level.

In the same field of endeavor, Connor discloses information of network

congestion at data link level (congestion-indication, FIG. 2; notice that FIG. 2 shows

the congestion information in a frame, which is at data link level).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to combine Barnes with Connor by displaying congestion at

data link level disclosed by Connor using the display means taught by Barnes, stated in

the office action in order to monitor the operation status of the device (monitor the use

of the device, [0015], line 7-8).

7.   **Claims 4, 6, 14** and **16** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Barnes in view of Ahn, further in view of Connor (US 2003/0156542

A1, hereinafter **Connor**).

As to **claim 4** and **14**, Barnes in view of Ahn discloses claim 1 and 11, but is

silent on a means for collecting data link layer level protocol data; obtaining the network

congestion degree in the service area and outputting the obtained network congestion

degree to the display means.

In the same field of endeavor, Connor discloses information of network

congestion at data link level (congestion-indication, FIG. 2; notice that FIG. 2 shows a

frame, which is at data link level).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to combine Barnes with Connor to display network congestion

information at data link level in order to monitor the operation status of the device

(monitor the use of the device, [0015], line 7-8).Therefore, it would have been obvious

to a person of ordinary skill in the art at the time of the invention to display network

congestion information on a wireless device.

As to **claim 6** and **16**, Barnes discloses the system according to claim 4 and 12,

Barnes further discloses the display means includes:

a light-emitting means (LED, [0037]; or LCD that is commonly used as laptop

monitor); and

a means functioning to emit light in different colors (a high resolution color

display, [0037] or LED) in the case of displaying that the user is in the service areas (as

explained in claim 4);

Barnes and Connor are **silent on** displaying the network congestion information

by controlling the flickering cycle according to the network congestion degree.

However, displaying the network congestion information is disclosed by claim 4,

and the concept and benefit of displaying different degrees of a variable by controlling

the flickering cycle is well known in the art and Examiner takes an Official Notice of this

notion.

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to use the flickering rate of a display to indicate the degree of

the network congestion.

8.   **Claims 5** and **15** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Barnes in view of Ahn, further in view of Akama (US 2002/0058530 A1, hereinafter

Akama).

As to **claim 5** and **15**, Barnes in view of Ahn discloses claim 1 and 11, but is silent on wherein the display means includes: a light-emitting means (LED, [0037]; or a high resolution color display such as LCD, [0037], line 5-11);

Barnes is silent on the display means includes a means functioning to control the display of the congestion degree by controlling the flickering period of the light-emitting means based on the congestion degree.

In the same field of endeavor, Akama discloses displaying information using different flickering period depending on change of conditions ([0069], line 4-7), which can be the congestion degree.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the flickering rate of a display to indicate the degree of the network congestion for a good notification ([0069], line 5).

9.   **Claims 7, 17** and **20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes in view of Ahn, further in view of Jim Geier, "Overview of the IEEE 802.11 Standard", Dec 6, 2001, hereinafter **Geier**.

As to **claim 7 and 17**, Barnes in view of Ahn disclose claim 1 and 11, but **is silent** on using wireless LAN ESS (extended service set) ID as identification data.

In the same field of endeavor, Geier teaches ESS (Subsection "Extended Service Set (ESS) Networks", page 12; particularly Fig. 3.7). Since Geier teaches more details of wireless LAN standard that is disclosed in Barnes, it is obvious expedient to combine Barnes and Geier together to use ESS ID as identification data.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to display to use ESS ID as identification data due to obvious industrial expedient for the benefit of applying the technology to more sophisticated networks.

As to **claim 20**, Barnes in view of Ahn discloses the method according to claim 11, but is silent on wherein the congestion degree is obtained by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point.

Geier discloses ACK (ACK, Page 17) frame type and CTS (CTS, Page 17) frame type.

Barnes teaches the concept of WLAN and Geier further discloses details of the WLAN protocol.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to obtain congestion degree by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point in order to provide full WLAN service.

10.   **Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes in view of Ahn and Conner, further in view of Jim Geier, "Overview of the IEEE 802.11 Standard", Dec 6, 2001, hereinafter **Geier**.

As to **claim 19**, Barnes in view of Ahn and Conner claim 4, but is silent on wherein the congestion degree is obtained by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point.

However, Geier discloses ACK (ACK, Page 17) frame type and CTS (CTS, Page 17) frame type.

Barnes teaches the concept of WLAN and Geier further discloses details of the WLAN protocol.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to obtain congestion degree by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianye Wu whose telephone number is (571)270-1665. The examiner can normally be reached on Monday to Thursday, 8am to 7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 2616

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